

## SDP™ Low Power DIN Rail Series



The compact, lightweight DIN Rail power supplies come in output voltages from 5 to 48 Vdc and power ratings of up to 100 Watts. These extra small, efficient units are designed specifically for the industrial environment. Each unit is rated from -10°C to 70°C, with no derating necessary until above 60°C. Many extra "industrial" features are standard for the SDP PowerBoost™ overload circuitry can start up industrial loads (i.e. motors, relays, solenoids and DC-DC converters), that can cause ordinary power supplies to

foldback or shutdown. Each unit contains a D C indicator and front panel adjustment potentiometer. With the SolaHD SDP series, you can count on a high grade design.

### Applications

- Industrial Control
- Process Control
- Machine Control
- Building Automation
- Instrumentation

### Features

- Ultra slim 15W footprint
- No tools required for mounting
- Adjustable output
- PowerBoost™ industrial overload design
- Overvoltage, short circuit protection
- Continuous short circuit protection
- Low output noise
- Screw terminal connections
- Three year limited warranty
- NEC Class 2 power supply acc. to NFPA 70 article 725-41 (a)(2) except Model SDP 4-24-100RT

### Certifications and Compliances

- Listed, Industrial Control Equipment, E61379
  - UL 508, CSA C22.2 No. 107.1
- Recognized Component, ITE, E137632
  - UL 60950-1/CSA C22.2 No. 60950-1, 2nd Edition
- Recognized Component, Haz. Loc., E234790
  - ISA 12.12.01, CSA C22.2 No. 213
  - Class I, Division 2, Groups A, B, C, D
- IEC/EN60950-1, 2nd Edition
- RoHS Compliant

### Related Products

- SDN™ Series
- SCP Series

#### Selection Table

| Catalog Number   | DC Output Voltage | Output Current | Ripple / Noise | Size (H x W x D) – in. (mm)                                  |
|------------------|-------------------|----------------|----------------|--|
| SDP 5–5–100T     | 5 - 6 V           | 5 A            | <50 mVpp       | 2.95 in x 1.77 in x 3.58 in<br>(75.0 mm x 45.0 mm x 91.0 mm) |
| SDP 2–12–100T    | 10 - 12 V         | 3 - 2.5 A      |                |  |
| SDP 3–15–100T    | 12 - 15 V         | 4.2 - 3.4 A    |                |  |
| SDP 1–48–100T    | 48 - 56 V         | 1 A            |                | 2.95 in x 0.9 in x 3.8 in<br>(75.0 mm x 22.8 mm x 96.7 mm)   |
| SDP 06–24–100T   | 24-28 Vdc         | 0.6 A          |                |  |
| SDP 1–24–100T    |                   | 1.3 A          |                |  |
| SDP 2–24–100T    |                   | 2.1 A          |                |  |
| SDP 4–24–100LT   |                   | 3.8 A          |                |  |
| SDP 4–24–100RT * |                   | 4.2 A          |                |  |
|                  |                   |                |                | 2.95 in x 2.85 in x 3.8 in<br>(75.0 mm x 72.5 mm x 96.7 mm)  |

\* NEC Class 1

SDP™ Series Specifications (Other Voltages)

| Description                     | Catalog Number  |                              |                                     |                                       |
|---------------------------------|---|------------------------------|-------------------------------------|---------------------------------------|
|                                 | SDP 5-5-100T  | SDP 2-12-100T                | SDP 3-15-100T                       | SDP 1-48-100T                         |
| <b>Input</b>                    |   |                              |                                     |                                       |
| Input Voltage <sup>1</sup>      | 85-264 Vac, 90-375 Vdc  |                              |                                     |                                       |
| Input Frequency                 | 47 - 63 Hz  |                              |                                     |                                       |
| Input Current                   | 0.6 A @ 102 Vac;<br>0.33 A @ 196 Vac  |                              | 1.0 A @ 102 Vac;<br>0.6 A @ 196 Vac | <1.0 A @ 100 Vac;<br><0.6 A @ 196 Vac |
| External Fusing                 | Not required. Unit provides internal fuse (T3A, not accessible)   |                              |                                     |                                       |
| Hold-Up Time                    | > 25 ms   |                              |                                     |                                       |
| Efficiency                      | > 80% typ.  |                              | > 86% typ.                          |                                       |
| Losses                          | 7.5 W typ.  | 8.1 W typ.                   | < 8.1 W typ.                        |                                       |
| <b>Output</b>                   |   |                              |                                     |                                       |
| Output Voltage                  | 5 - 5.5 Vdc (5 - 6 min adj.)  | 12 Vdc (9.9 - 12.1 min adj.) | 15 Vdc (11.9 - 15.1 min adj.)       | 48 Vdc (48 - 56 min adj.)             |
| Voltage Regulation              | < 2% Dynamic; < 0.5% Static   |                              |                                     |                                       |
| Ripple/Noise <sup>2</sup>       | < 50 mVpp   |                              |                                     |                                       |
| Overvoltage Protection (OVP)    | > 6.7 Vdc   | > 18 Vdc                     | > 20 Vdc                            | > 56 Vdc                              |
| Output Noise Suppression        | Radiated EMI values below EN61000-6-2   |                              |                                     |                                       |
| Rated Continuous Loading        | I <sub>out</sub> = 5A @ V <sub>out</sub> = 5.1V   | 3A @ 10 Vdc<br>2.5A @ 12 Vdc | 4.2A @ 12 Vdc<br>3.4A @ 15 Vdc      | Up to 1.05A @ 48 V<br>0.9A @ 56 V     |
| Overload Behavior               | Continuous operation at overload/short-circuit: up to 1.5 x Nominal Current Continuous  |                              |                                     |                                       |
| Protection                      | Unit is continuously protected against short-circuit, overload and open-circuit.  |                              |                                     |                                       |
| Power Back Immunity             | 10 V  |                              | 22 V                                | 80 V                                  |
| <b>Installation</b>             |   |                              |                                     |                                       |
| Status Indicators               | Green LED on, when V <sub>out</sub> "OK".   |                              |                                     |                                       |
| Case & Mounting                 | Molded plastic housing using UL 94 approved flameproof material rating 94V-2.<br>Simple snap-on to DIN TS35/7.5 or TS35/15 rail system.   |                              |                                     |                                       |
| <b>Dimensions</b>               |   |                              |                                     |                                       |
| (H x W x D) (in/mm)             | 2.95 x 1.77 x 3.58 (75.0 x 45.0 x 91.0)   |                              |                                     |                                       |
| Weight - lbs (kg)               | 0.5 lbs (.23 kg)  |                              |                                     |                                       |
| Mounting Orientation            | <b>Standard:</b> Vertical; <b>Optional:</b> Horizontal or On Top (Contact Technical Services).  |                              |                                     |                                       |
| Ventilation/Cooling             | Normal convection, no fan required; Above/below: 25 mm recommended.   |                              |                                     |                                       |
| •Free space for cooling         |   |                              |                                     |                                       |
| Connection                      | Input: screw terminals, connector size range: 20-12 AWG (1.5 - 6 mm <sup>2</sup> ) for solid or stranded conductors.  |                              |                                     |                                       |
| •Connector size range           |   |                              |                                     |                                       |
| <b>General</b>                  |   |                              |                                     |                                       |
| Temperature                     | <b>Storage:</b> -25°C to +85°C <b>Operation:</b> -10°C to +60°C full power with linear derating to half power from +60°C to +70°C.<br>(Convection cooling, no forced air required). |                              |                                     |                                       |
| MTBF                            | > 500,000 hours according to Telcordia/Bellcore Document SR-332, Issue 1.   |                              |                                     |                                       |
| Humidity                        | Up to 90% RH, noncondensing; IEC 68-2-2, 68-2-3   |                              |                                     |                                       |
| Electromagnetic Emissions (EMC) | EN61000-6-3 (includes EN61000-6-4) Class B (EN 55022) incl. Annex A   |                              |                                     |                                       |
| Electromagnetic Immunity (EMI)  | EN61000-6-2 (includes EN61000-6-1) (EN55024) Criterion A; no degradation of performance   |                              |                                     |                                       |
| Safe Low Voltage                | SELV (acc. EN60950)   |                              |                                     |                                       |
| Protection Class/Voltage        | IP20 (IEC529), Protection Class 1 (IEC536)  |                              |                                     |                                       |
| Warranty                        | 3 year limited warranty   |                              |                                     |                                       |

Notes:

1. Not UL listed for DC input.
2. Ripple/noise is stated as typical values when measured with a 20 MHz, bandwidth scope and 50 Ohm resistor.

# Specifications

UL Recognized Component, Haz. Loc.

Class I, Division 2, Groups A, B, C, D

Input Voltage Range

SDP-T: 85-264 Vac, 90-375 Vdc. SDP-LT/SDP-RT: 85-132 / 176-264 Vac, 210-375 Vdc

Overload Capacity

SDP-T: > 30 Vdc, but < 33 Vdc, auto recovery. SDP-LT: > 26 Vdc, but < 27.2 Vdc, auto recovery. SDP-RT: > 30 Vdc, but < 33 Vdc, auto recovery

Hertz

47-63 Hz

|                                      |                       |
|--------------------------------------|-----------------------|
| 85-264 Vac, 90-375 Vdc               | Input Voltage Range   |
| -10°C to +70°C full power            | Operating Temperature |
| 25-100 W                             | Output Power          |
| 5, 6, 10, 12, 15, 24, 28, 48, 56 Vdc | Output Voltage Range  |
| Green LED OK                         | Status Indicator      |
| Single                               | Number of Phases      |
| DIN TS35/7.5 or TS35/15              | Mounting              |